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ABSTRACT

Evidence shows that choice of field of concentration at the middle school or junior high level is the single most powerful predictor of how far a student will progress up the educational ladder. National statistics now indicate that out of 10 Hispanic students in the 8th grade, about 5 will receive a high school diploma but only 1 will have completed an academic program in school which prepared the student for college admission and the pursuit of a professional career. Students, parents, guidance counselors, teachers, and principals should be acutely aware that the decision to take or not to take elementary algebra in junior high is a crucial, hard-to-reverse decision that adds up to a predisposing pattern. Stereotypic thinking leading to the assumption that Hispanic children probably will want to embark on vocational or general curricula must be changed. Programs such as Options for Excellence, conducted in San Antonio, Texas, by the College Board from 1981-1984, have been successful in identifying able high school students whose abilities and talents were not being fully recognized, instilling a sense of optimism and self confidence, and raising the educational sights and expectations of students, parents, and schools. (NEC)

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Paper presented before the Border College Consortium Conference

San Antonio, Texas

May 3, 1985

Succeeding by the Numbers

When I was invited to speak at this gathering, I accepted quite blithely for some good reasons and some bad reasons. The good reasons had to do mainly with the old friends I'd be with and the importance of the topic. The first bad reason was the fact that the date was far enough off to make me think I had plenty of time -- obviously a reason that vanishes very steadily after Day 1. The second bad reason was that, since I had looked at a lot of research results about educational development, it seemed plausible that I could lay out my observations and opinions quite simply once I got around to it. Of course I found that the reverse was the case. I'm becoming convinced that too many numbers induce educational myopia. After a while, as somebody has probably said before, I find it very hard to distinguish between the truth and the facts.

I finally decided that meditation was in order. The nice thing about meditation is that it makes doing nothing quite respectable. But when I stepped back from the research and meditated awhile, I decided that the main message I wanted to develop in my talk today is both simple and optimistic. It is this:

The decade or two immediately ahead will present us with an exceptionally favorable and perhaps a uniquely favorable opportunity to expand the representation of Hispanic people in positions of leadership in the business and professional life of this country. The signs point to a sharp upturn in demand. The questions all relate to how we can best match that demand with the necessary supply of trained

talent. Obviously, the key to that problem lies in educational policy and practice. That's the business that most of us are in. I don't believe in sudden solutions to long-standing educational problems any more than you do, but I do see an unusual set of circumstances ahead that make me think that concerted efforts now can pay off much more quickly and handsomely than at any time in recent history.

This group is well aware of the demographic facts ahead of us nationally in education. We are in a period of declining age groups at the level of high school graduation and first-time college enrollment. Over the next ten years the 18-year-old population will drop by about a third, and, as we all know, it's very likely that college enrollments will drop as a consequence. Fewer people will be of an age to enter the job market at a time when more and more workers are beginning to reach retirement age and drop out of the labor force. So there will be fewer people of working age in the United States for the jobs that exist now.

But at this time our country is creating new jobs at a rate of over 2 million a year. So nationally we have an increasing need for new workers just when the supply is starting to shrink noticeably.

The mismatch is magnified when we look at the increasing need not just for undifferentiated labor but for people with the trained intelligence to occupy the positions of leadership in the years ahead. The need will be increasingly for people who are at home in a world where events move swiftly, where technology is a shaping force, where the economic competition is not just from the people across the street but from the people half way around the world as well. The premium on finding well-educated people for the good jobs in America is going to

be growing just when the age groups reaching the years for college and for job entry will be dwindling.

For college presidents and business officers, that's a big problem. For graduate deans, it's an even bigger problem. For companies looking for educationally qualified and especially for technically qualified new hires, the problem is going to be desperate.

But of course the recruiter's agony will be the job-seeker's delight. Even though some unemployed new Ph.D.'s may find it hard to believe today, we are on the verge of a flip-flop from a buyer's market to a seller's market where educated brainpower is the commodity in demand.

My conclusion is that the next 15 years are going to be a time of unprecedented demand for well-trained young people -- people with Associate, Bachelor's, and graduate degrees. The country will see with increasing clarity that it has to look to the sources of untapped potential. And where is that potential to be found? Border States don't have a monopoly on it, but they have extraordinary riches in young talent -- talent that the country will see that it needs, certainly before the end of this decade. If talented youngsters are to take advantage of the sudden spurt in demand, however, they need the college education that will qualify them for tomorrow's top jobs.

The shortage will be most acute in the fields of math and science, and that is why the Math Intervention Program is so extraordinarily important. It has set in motion an emphasis and a pattern of accomplishment that will help to equip the generation of students now going through school and college for the opportunities to come. Insofar as we can institutionalize and extend the successful innovations created in these projects, the benefits will be there also for the younger

brothers and sisters of today's students as they come along in the Border colleges and in other institutions that pick up and adapt the intervention strategies.

A critical problem, of course, is to see to it that there is a rapid and sustained increase in the number of young people, and especially Hispanic youngsters, who enter college with the kind of preparation that will equip them to do well in an academic curriculum in whatever area of interest they may choose. The need is especially acute in the fields of math, science, and technology, which underscores the importance of the math intervention strategies we are discussing in both our morning and afternoon sessions.

At the school level, our objective should be to render obsolete the math intervention projects at the college level that are so necessary today. Easier said than done, but let's look at some facts that convince me that we may be able to make a very significant contribution to the education and career opportunities of Hispanic students and to the needs of the country for trained manpower at the same time.

The first fact is the much-publicized observation that a disproportionate number of Hispanic students drop out of high school without receiving a diploma. The dropout rate nationally for Hispanic youth is probably somewhere between 40 and 50 percent, depending on how you count, roughly triple the rate for Anglos and double the rate for Blacks.

This discouraging national figure has been presented often enough to have become part of the conventional wisdom about "how it is" and by easy extension "how it's going to be." The number loses a lot of its inevitability if you break it down, as the National Commission on

Secondary Education for Hispanics did in its 1984 report entitled Make Something Happen. They give the following drop-out rates for urban centers:

New York	80 percent
Chicago	70 percent
Los Angeles	50 percent
Miami	32 percent
San Antonio	23 percent

Obviously, the national 45% drop-out rate is not a number that tells you much. It is neither applicable to any given community nor inevitable in a community that works on the problem, as San Antonio has in so many ways over so many years. The difference between 80% and 23% is about as dramatic a difference as you are going to get.

The message is that the dropout rate is not a law of nature. It is subject to modification in impressive degree. We can do something about it. And we must, because the trained leadership of tomorrow is not going to come from the dropouts of today.

Another statistic, less publicized than dropout but critically important, is the proportion of an age group that persists to receipt of a high school diploma with an academic concentration. This is important because the data show that relatively few Hispanic students graduating from high school with preparation in a vocational or general program go on to college and even fewer persevere to a Bachelor's degree. Here I'm reflecting national data: the picture will be quite different in some communities.

The choice of an academic curriculum versus a general or vocational one at the school level is in my opinion virtually a necessary precondition for any student who aspires to a leadership role in the professional, business, or academic worlds in the next 20 years. Experience and research data amply confirm the fact that very few people who come to college without an academic diploma from high school make it through to the baccalaureate.

And yet here is a statistic that I find startling: among Hispanic youngsters, only about 10% of an age group finish high school with an academic concentration, compared with 20% of Black and 35 to 40 percent of Anglo students. If you accept my premise that the youngsters with an academic diploma from school have the best chance to acquire a B.A. -- the education they are going to need for the major jobs in the future -- then 90% of the Hispanic youngsters coming out of school today have seriously impaired their chances of seizing the opportunities ahead of them. Both they and society around them will be much the poorer for it.

There would be very little point in wallowing in these gloomy statistics if there were nothing that could be done about them. My reason for leading you through these mournful numbers is that I don't think we need to accept them or have any intention of doing so. The question is: can we really change the picture radically in time to capitalize on the coming era of high demand for college-trained people? Because if we can, I am convinced that we can alter the racial and ethnic composition of the American job pyramid. We can go

a long way toward eliminating, for an entire age group, the imbalances in academic preparation and in job opportunities that for generations have been root causes of inequality in America.

Lest you brand me as hopelessly naive, let me acknowledge that the job won't be easy and that it will call for a sustained, cooperative effort of the kind we have traditionally found it hardest to mount: that is, cooperation across levels of education. But so many people in this room have already demonstrated a remarkable ability to work wonders in their own communities and institutions that I am encouraged to believe that the job can be done.

We have discovered a good many things over the years about what it takes to bring about educational change. We know that the schools can't do it alone. It takes informed, concerned and mobilized parent-power to get things going -- and that force, once it is turned on a problem, exerts tremendous leverage on what happens in schools.

There are many causes that parent-power can support. At a general level, parents have always supported good education and high standards. They also support in general such developments as pre-school, but they may not be aware of the mounting evidence as to the tremendous difference it makes to the educational success of many children, especially those from homes that are least well-equipped to provide tutoring at home. Similarly, they may be concerned with the need for encouraging homework in general but not aware of the evidence that parental insistence on getting it done regularly makes a big difference to the school success of many children.

A matter of special concern to parents -- but one they often almost overlook -- is, or should be, the matter of the curricular choice made by the student or for the student around Grade 8 in most school systems and that launches him or her on one of three paths: the academic, vocational, or general curriculum. This is the critical fork in the road for most students.

For some students, the choice is well considered by themselves in concert with their teachers and parents. The decision is very deliberately made with full consideration of the options, the abilities and inclinations of the student, and the probable educational consequences and job consequences of the choice. But in an amazing number of cases, the process is very different -- shockingly different. The choice is made casually or even unwittingly. The first math option is often the turning point. A common finding is that the student is put into general math or business math rather than elementary algebra, often with little discussion and less forethought, and the die is cast.

I would not argue for a minute that all children should enter an academic program. I would argue, however, that the life chances of a tremendous number of able youngsters may be limited needlessly in the future unless we make sure that a much larger proportion of the class chooses the academic route than has been true in the past. The good jobs of the future will go to the people of trained intelligence -- trained, in an increasing number of cases, at the baccalaureate level and above. A child who can handle the academic program in high school should be urged to take it. The burden of proof should be

on making the contrary choice by deliberate choice or through casual happenstance.

It may seem that I am making a career mountain out of a curricular molehill, but the statistics suggest otherwise. The evidence shows that the choice of field of concentration at the middle school or junior high level is the single most powerful predictor of how far a student will progress up the educational ladder. And algebra -- to take or not to take -- is often the decision that opens the gate or closes it.

The statistics show that as things stand now, on a national basis, out of 10 Hispanic students in the 8th grade, about 5 will receive a high school diploma but only one will have completed an academic program in school. The chances that any of the other 9 will be among the engineers, accountants, faculty members, or doctors of the future are slim indeed. And the imbalance in the professions, in society's most highly rewarded occupations, will remain to plague us in the next century as it has in this one.

We just aren't going to achieve the educational and societal advances we all want to see with nine out of ten Hispanic youngsters taken out of contention by the time they leave high school. That's the ratio I worry about: 9 out of 10, not the 5 out of 10 that you get if you look only at graduation or non-graduation.

Since the decision to take or not to take Elementary Algebra in junior high is one of those hard-to-reverse decisions that add up to a predisposing pattern, you would suppose quite correctly that I would favor a strong push to flag the importance of that specific

decision, and of course the broader decision as to the choice of curriculum to principals, teachers, guidance counselors, students and their parents very early in the game. I would also favor confronting explicitly the stereotypic thinking that too often leads to the assumption that Hispanic children probably will want to embark on a vocational or general curriculum. This assumption is predicated on a traditional but pernicious belief that these students will not be headed for college at the end of high school and so should be guided into a more practical curriculum in school. This is a self-fulfilling prophecy if ever there was one!

For many years, we have erred on the side of modest expectations. The assumptions we made were born of bitter experience in a world where the job pyramid offered a great many jobs at the base and very few at the apex, and where the high-level jobs required an extraordinary investment in education with a high risk of rejection at all levels, including the final one of the job interview. To many people it seemed better to enter a vocational program unless there were special and compelling reasons for believing that an academic training was in order.

But with the shift to a service economy and to a white collar work force, it is the general skills of literacy and computation that employers are looking for. The burden of proof has shifted. The chances seem much better that the student with good academic credentials, including diplomas and college degrees, will be the student who is best equipped for the rapidly expanding segments of the job

structure, which happen also to be the jobs that enjoy the rewards of prestige and salary. The road to these jobs starts back there in school where curriculum differentiation begins, and the casual math choice turns out to be a critical life choice.

I have often thought that it would be a big help if decisions came equipped with signs that said "IMPORTANT" in big letters or "Trivial" in small ones. Usually we learn which is which after the fact. Surprise! But as educators we can hang the signs on at least some of the decisions so that people will have a better chance of taking the important ones seriously. Curriculum choice rates a big sign.

The concern that many people have relates to whether or not a particular young person will in fact be able to succeed in an academic program or will instead be progressively more baffled, frustrated, and ultimately defeated by it.

There is no doubt that a demanding academic curriculum will pose undue difficulty for some students and that they should be counselled in other directions. We just shouldn't slip into that decision too readily.

I would cite in evidence the findings of the program called Options for Excellence, conducted here in San Antonio (Bexar County) from 1981 through '84 by the College Board and supported by a million-dollar grant from the Minnie Stevens Piper Foundation. Of the 49 high schools in Bexar County, 19 have over 50 percent minority population and 9 have over 90 percent minority membership, principally Mexican American.

The program had as one objective identifying able high school students whose talents were not necessarily being fully recognized in the classroom or reflected in their high school grades: identifying those students to teachers and guidance counselors and especially to parents and the students themselves. Under Options for Excellence all high school juniors were encouraged to take the Preliminary Scholastic Aptitude Test, for which the College Board waived the fee. I, of course, was disappointed that the program didn't start earlier so that it could exert greater leverage on the curricular choices of the students, but one starts where one can.

Before the PSAT was given, the project staff held a series of meetings with counselors, who in turn enlisted the participation of teachers in getting the students ready for the test. About 15,000 letters were sent to parents, most of them in both Spanish and English, alerting them to the program. A number of superintendents attached their own cover letter to the Message to Parents. Mayor Cisneros endorsed the project and supported it warmly and the newspapers and radio gave it good coverage.

About three-quarters of the students took the test, and most of the schools went over each student's results with them individually and reviewed in detail the scores for the school as a whole. As the project report says,[1]

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[1] Options for Excellence. College Entrance Examination Board, New York, N. Y., February, 1985, p. 28

> Without significant exception counselors and teachers did use the data generated by the administration of the PSAT/ NMSQT to encourage more minority students to enroll in college preparatory curricula and to take additional courses in mathematics, languages, natural sciences, and history. For example, the year before the arrival of Options for Excellence, 17 percent of the graduating class of small, rural Southside High School enrolled in college while among the graduates in 1983, 42 percent enrolled in college.

The second major thrust of the program was to help individual schools and school districts establish or expand the Advanced Placement Program courses as part of the high school instructional program.

When Options for Excellence began, only one public school in greater San Antonio had clearly identifiable Advanced Placement courses. By the third year, 31 had one or more AP courses in operation. A number of colleges formed the Southwest Advanced Placement Consortium and offered summer institutes for teachers who planned to teach AP courses -- 151 of them from 38 of the 49 schools and all 16 of the school systems in the county. The numbers grew each year. No doubt the fact that the Foundation grant afforded a $1500 stipend for each teacher was important in starting the ball rolling but I understand that this year, with the grant a thing of the past, the enrollment is the greatest yet.

I can't take time to review with you the range of projects and cooperative ventures between secondary and higher educational institutions that grew up in the context of this flexible and innovative program. These ranged from early identification activities in the schools to workshops for minority students on college campuses.

The principal of one high school indicated that[2]

> ...the additional emphasis on the academic programs increased the number of students remaining in school for the twelfth grade and increased the enrollment in academic courses and the newly instituted Advanced Placement courses.
>
> Between 1981 and 1983, the entire course sequence in mathematics and science at Southside High School was revamped starting with the eighth grade, and the number of students taking chemistry grew from eight to 60. Gratified by the students' attitude and response to the increased emphasis on academics, the district's Board of Trustees raised the graduation requirements in both English and mathematics by one year. It is interesting to note that the action by the district to tighten up the curriculum occurred after the students had demonstrated their interest and ability to cope with a stronger program.

One further outcome of the project was the creation of a business and education network designed to provide in-kind services and financial assistance to schools by the area's private sector. Finally, the city of San Antonio officially incorporated the project's goals and purposes into its plans for the 1990's.

I have taken this time to describe one recent project because to me it demonstrates that the concept of the great leap forward in education is not farfetched. It can be done. True, a million dollar grant helps, but in this case the grant served mainly to identify and energize resources that were there before the project began and that are there and still gaining in strength after the project has formally closed.

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[2] Op. cit., p. 29

Options for Excellence brought together the prime ingredients for success in an educational revitalization movement:

- identifying ability and talent to the students themselves and to others
- instilling a sense of optimism and self-conficence
- raising students' sights educationally -- and raising the sights and expectations of their parents and the school.

This example of what can be done has a simple message for me. That is that if the climate is right and the encouragement is sustained the students will amaze us with their energy, ability, and accomplishment. They have the talent and the desire to do more than we have expected of them. To raise their academic sights and the expectations of their parents and the community is in no way to create expectations that the students cannot fulfill. They can and they will. Further, we are entering an age when, for a majority of students, the most practical job preparation we can give them is an academic program in school followed by strong support and instruction in our colleges and universities.

In keeping with the math intervention program we are considering today, let me close with a reminder of how many of those opportunities that lie ahead will presuppose competency in science and math, which must start in the early years. The decades we now face will be, indeed, a period when young people in general and Hispanic youngsters in particular will succeed --how? "By the numbers," of course.